CHAPTER 2.1.1.

EPIZOOTIC HAEMATOPOIETIC NECROSIS

Article 2.1.1.1.

For the purposes of this *Aquatic Code*, [the disease agents of] epizootic haematopoietic necrosis (EHN) [are: EHN virus (EHNV), European sheatfish virus (ESV) and European catfish virus (ECV)] means infection with EHN virus (EHNV).

[Provisions for recognition of freedom from EHN means that the conditions as outlined below are met for all of the agents listed above.]

Article 2.1.1.2.

Susceptible species

1) Naturally susceptible species in which clinical signs of EHN [V infection] are known to develop are: redfin perch (*Perca fluviatilis*) and rainbow trout (*Oncorhynchus mykiss*). [The diseases agents listed in Article 2.1.1.1.] EHNV can also cause [asymptomatic] *subclinical* infection in [their respective susceptible species listed in Article 2.1.1.2] these species.

2) Experimental EHNV infections have been reported in Macquarie perch (*Macquaria australasica*), silver perch (*Bidyanus bidyanus*), mountain galaxias (*Galaxias olidus*), [and] mosquito fish (*Gambusa affinis*) and other species belonging to the family Poeciliidae.

[Naturally susceptible species in which clinical signs of ESV infection are known to develop are: sheatfish (*Silurus glanis*).

Naturally susceptible species in which clinical signs of ECV infection are known to develop are: catfish (*Ictalurus melas*).

Article 2.1.1.3.

The disease agents listed in Article 2.1.1.1] can cause asymptomatic infection in their respective susceptible species listed in Article 2.1.1.2.

Article 2.1.1.4.

Experimental EHNV infections have been reported in Macquarie perch (*Macquaria australasica*), silver perch (*Bidyanus bidyanus*), mountain galaxias (*Galaxias olidus*), and mosquito fish (*Gambusa affinis*) and other species belonging to the family Poeciliidae.]

Article 2.1.1.[5]3.

Suspect cases of natural infection with [any of the agents listed in Article 2.1.1.1] EHNV in species other than those listed in Article[s] 2.1.1.2 [and 2.1.1.3] should be referred immediately to the appropriate OIE Reference Laboratory, whether or not clinical signs are associated with the findings.

Article 2.1.1.[6]4.

Methods for surveillance, diagnosis and confirmatory identification of the disease agents are provided in the *Aquatic Manual.*

Article 2.1.1.[7]5.

EHN free country

A country may be [considered] *officially declared free* from EHN if it meets the conditions in [Articles 2.1.1.8 or 2.1.1.9] point 1) or 2) below.

If a country shares a water catchment area with one or more other countries, it can only be declared an EHN free country if all the shared water catchment areas are declared free *zones* [(see Articles 2.1.1.10 to 2.1.1.12)] (see Article 2.1.1.6).

[Article 2.1.1.8]

1) A country where none of the species listed in Article[s] 2.1.1.2 [and 2.1.1.3] is present or where susceptible species are present but there has never been any observed occurrence of the disease for at least the past 25 years despite conditions that are conducive to its clinical expression, as described in Chapter 2.1.1 of the *Aquatic Manual*, may be *officially declared* [considered] free from EHN when [prescribed biosecurity] *basic disease security conditions* have been in place continuously in the country for at least the previous [2] 10 years and infection is not known to be established in wild populations [as follows:

   a) EHN is compulsorily notifiable to the *Competent Authority,* including notification of suspicion; and

   b) an *early detection system* is in place within the country enabling the *Competent Authority* to undertake effective disease investigation and reporting, including access to laboratories capable of diagnosing and differentiating relevant diseases, and training of veterinarians or fish health specialists in detecting and reporting unusual disease occurrence; and

   c) infection is not known to be established in wild populations; and

   d) conditions applied to imports to prevent the introduction of EHN into the country are in place (see Section 1.4)].

[Article 2.1.1.9]

OR

2) A country where the last known clinical occurrence was within the past 25 years or where the infection status prior to *targeted surveillance* was [previously] unknown, for example because of the absence of conditions conducive to clinical expression, as described in Chapter 2.1.1 of the *Aquatic Manual*, may be *officially declared* [considered] free from EHN when:

   a) it meets [the prescribed biosecurity] *basic disease security conditions* [detailed in Article 2.1.1.8]; and

   b) *targeted surveillance* as described in Chapters 1.4 and 2.1.1 of the *Aquatic Manual* has been in place for at least the past 2 years in *aquaculture establishments* holding any of the susceptible species listed in Article[s] 2.1.1.2 [and 2.1.1.3] without detection of [the disease agent listed in Article 2.1.1.1] EHNV. If there are areas of the country in which there are no such aquaculture establishments but in which there are wild populations of any of the susceptible species listed in Article[s] 2.1.1.2 [and 2.1.1.3], those populations must be included in the *targeted surveillance.*

Article 2.1.1.[10]6.

EHN free zone

An EHN free *zone* may be established and *officially declared free* within the *territory* of one or more countries of infected or unknown status for EHN, if the *zone* meets the conditions referred to in [Articles 2.1.1.11 or 2.1.1.12] point 1) or 2) below. Such EHN free *zones* must comprise: one or more entire water catchment area(s) from the sources of the waterways to the sea, or part of a catchment area from the source(s) to a natural or artificial barrier that prevents the upward migration of *fish* from lower stretches of the waterway. Such *zones* must be clearly delineated on a map of the *territory* of the country(ies) concerned by the *Competent Authority.*

If a *zone* extends over more than one country, it can only be declared an EHN free *zone* if the conditions outlined below apply to all [shared] areas of the *zone.*

[Article 2.1.1.11]

1) In a country of unknown status for EHN, a *zone* where none of the species listed in Article[s] 2.1.1.2 [and 2.1.1.3] is present or where susceptible species are present but there has never been any observed occurrence of the disease for at least the past 25 years despite conditions that are conducive to its clinical expression, as described in Chapter 2.1.1 of the *Aquatic Manual*, may be *officially declared* [considered] free from EHN when [prescribed biosecurity] *basic disease security conditions* have been in place continuously in the *zone* for at least the previous [2] 10 years and infection is not known to be established in wild populations. [as follows:

a) EHN is compulsorily notifiable to the *Competent Authority,* including notification of suspicion*;* and

b) an *early detection system* is in place within the *zone* enabling the *Competent Authority* to undertake effective disease investigation and reporting, including access to laboratories capable of diagnosing and differentiating relevant diseases, and veterinarians or fish health specialists are trained in detecting and reporting unusual disease occurrence; and

c) infection is not known to be established in wild populations; and

d) official control measures to prevent the introduction of EHN into the *zone* are in place.]

[Article 2.1.1.12]

OR

2) A *zone* where the last known clinical occurrence was within the previous 25 years or where the infection status prior to *targeted surveillance* was [previously] unknown, for example because of the absence of conditions conducive to clinical expression, as described in Chapter 2.1.1 of the *Aquatic Manual*, may be [considered] *officially declared* free from EHN when:

a) it meets [the prescribed biosecurity] *basic disease security conditions* [detailed in Article2.1.1.11]; and

b) *targeted surveillance* as described in Chapters 1.4 and 2.1.1 of the *Aquatic Manual* has been in place for at least the past 2 years in *aquaculture establishments* holding any of the susceptible species listed in Article[s] 2.1.1.2 [and 2.1.1.3] without detection of [the disease agents listed in Article 2.1.1.1] EHNV. If there are areas of the *zone* in which there are no such *aquaculture establishments* but in which there are wild populations of any of the susceptible species listed in Article[s] 2.1.1.2 [and 2.1.1.3], those populations must be included in the *targeted surveillance.*

These provisions also apply if the *zone* to be *officially declared* free lies in an EHN-infected country.

[Article 2.1.1.13.

EHNfree aquaculture establishment

An EHN free *aquaculture establishment* may be located within an EHN infected country or zone or within a country or zone of unknown status with respect to EHN if it meets the conditions referred to in Articles 2.1.1.14 or 2.1.1.15. Such EHN free *aquaculture establishments* must be supplied by a contained water source only (e.g. a spring, well, borehole, rain catchment, etc.) and be free from stocks of wild *fish* of the susceptible species listed in Articles 2.1.1.2 and 2.1.1.3, and there must be a natural or artificial barrier that prevents the migration of *fish* from lower stretches of the waterway into the *aquaculture establishment* or its water supply.

Article 2.1.1.14.

An *aquaculture establishment* where none of the species listed in Articles 2.1.1.2 and 2.1.1.3 is present or where there has never been any observed occurrence of the disease despite conditions that are conducive to its clinical expression may be considered free from EHN when *prescribed biosecurity conditions* have been in place continuously in the *aquaculture establishment* for at least the previous 2 years as follows:

1) EHN is compulsorily notifiable to the *Competent Authority,* including notification of suspicion*;* and

2) the *aquaculture establishment* complies with an *early detection system* enabling the *Competent Authority* to undertake effective disease investigation and reporting, including access to laboratories capable of diagnosing and differentiating relevant diseases, and the staff are trained in detecting and reporting unusual disease occurrence; and

3) official control measures to prevent the introduction of EHN into the *aquaculture establishment* are in place.

Article 2.1.1.15.

An *aquaculture establishment* where the last known occurrence of EHN was within the previous 25 years or the infection status was previously unknown, for example because of the absence of conditions conducive to clinical expression, may be considered free from EHN when:

1) it meets the *prescribed biosecurity conditions* detailed in Artide 2.1.1.14; and

2) *targeted surveillance* as described in chapters 1.4 and 2.1.1 in the *Aquatic Manual* has been in place for at least the past 2 years without detection of the disease agents listed in Article 2.1.1.1.

b) *targeted surveillance* as described in chapters 1.4 and 2.1.1 in the *Aquatic Manual* has been in place for at least the past 2 years without detection of the disease agents listed in Article 2.1.1.1.]

Article 2.1.1.[16]7.

Maintenance of free status

A country or *zone* [or *aquaculture establishment*] that is [considered] *officially declared* free from EHN following the provisions of [Articles 2.1.1.8, 2.1.1.11 and 2.1.1.14] point 1) of Articles 2.1.1.5 or 2.1.1.6, respectively, may maintain its official status as EHN free provided that [the prescribed biosecurity] *basic disease security conditions* are continuously maintained.

A country or *zone* [or *aquaculture establishment*] that is [considered] *officially declared* free from EHN following the provisions of [Articles 2.1.1.9, 2.1.1.12 and 2.1.1.15] point 2) of Articles 2.1.1.5 or 2.1.1.6, respectively, may discontinue *targeted surveillance* and maintain its official status as EHN free provided that conditions that are conducive to clinical expression of EHN, as described in Chapter 2.1.1 of the *Aquatic Manual*, exist and [the prescribed biosecurity] *basic disease security conditions* are continuously maintained.

However, for *officially declared* free *zones* in infected countries and in all cases where conditions are not conducive to clinical expression of EHN, *targeted surveillance* will need to be continued, but at a level commensurate with the degree of risk assessed by the *Competent Authority*.

Article 2.1.1.[17]8.

Suspension and restoration of free status

If a *Competent Authority* has reason to believe that any of the conditions for [recognition of] maintaining official status as an EHN free country or *zone* [or *aquaculture establishment* freedom] has been breached, it should immediately suspend the free status, implement any necessary containment measures and conduct an investigation.

If the investigation confirms that the suspected breach has not taken place, free status may be restored.

If the investigation confirms that the suspected breach has taken place, suspension of free status is continued. The *Competent Authority* should carry out an epizootiological investigation to determine the likelihood of disease entry and establishment [and re-establish the conditions in Articles 2.1.1.7 to 2.1.1.9, 2.1.1.10 to 2.1.1.12, or 2.1.1.13 to 2.1.1.15 if free status is to be restored]. If this investigation concludes that disease entry and establishment have not occurred, free status may be officially restored.

If the investigation confirms a significant likelihood that disease entry and establishment have occurred, the *Competent Authority* must declare that the free status is lost. In order to restore free status, the conditions in Articles 2.1.1.5 or 2.1.1.6 must be complied with again in full. Steps leading to re-establishment of free status may require depopulation, *fallowing*, *disinfection* and other measures, as described in Section 1.6, as well as *zoning* as described in Section 1.4.

Article 2.1.1.[18]9.

When importing live *fish* of the species listed in Article 2.1.1.2, or their *sexual products*, the *Competent Authority* of the *importing country* should require [that the consignment be accompanied by] an *international aquatic animal health certificate* issued by the *Competent Authority* of the *exporting country* or a *certifying official* approved by the *importing country*.

This *certificate* must certify, on the basis of [a surveillance scheme conducted according to the procedures described above and detailed in the *Aquatic Manual*, whether or not the place of production of the consignment is a country, *zone* or *aquaculture establishment* officially declared EHN free] the procedures described in Articles 2.1.1.5 or 2.1.1.6 (as applicable), whether or not the place of production of the consignment is a country or *zone officially declared* EHN free.

The certificate shall be in accordance with Model Certificate No. 1 given in Part 6 of this *Aquatic Code*.

Article 2.1.1.[19]10.

If the *Competent Authority* of the *exporting country* does not provide the certificate referred to in Article 2.1.1.9, or cannot certify the place of production of the consignment as being free from EHN, the *importing country* should assess the risk[s] of introduction and establishment of EHN associated with the importation of live *fish* of the species listed in Article 2.1.1.2, or their *sexual products*, from the *exporting country*, or seek assurance from the *exporting country* that *basic disease security conditions* are met, prior to a decision on whether to authorise an importation. This assessment should be made available to the *exporting country*.

Article 2.1.1.11.

When importing live *fish* of species other than those listed in Article 2.1.1.2, or their *sexual products*, the *Competent Authority* of the *importing country* should assess the risk of introduction and establishment of EHN associated with the importation prior to a decision on whether to authorise the importation, taking into account, for example, whether there is evidence for or against the presence of EHNV in the place of origin. This assessment should be made available to the *exporting country*.

Article 2.1.1.[20]12.

When importing dead *fish* of the *species* listed in Article[s] 2.1.1.2, [and 2.1.1.3] the *Competent Authority* of the *importing country* should require that the consignment be accompanied by an *international aquatic animal health certificate* issued by the *Competent Authority* of the *exporting country* or a *certifying official* approved by the *importing country*.

This *certificate* must certify, on the basis of [a surveillance scheme conducted according to the procedures described above and detailed in the *Aquatic Manual*, whether or not the place of production of the consignment is a country, *zone* or *aquaculture establishment* officially declared EHN free] the procedures described in Articles 2.1.1.5 or 2.1.1.6 (as applicable), whether or not the place of production of the consignment is a country or *zone officially declared* EHN free.

The certificate shall be in accordance with Model Certificate No. 2 given in Part 6 of this *Aquatic Code*.

Article 2.1.1.[21]13.

If the *Competent Authority* of the *exporting country* does not provide the certificate referred in Article 2.1.1.12, or cannot certify the place of production of the consignment as being free from EHN, the *importing country* should assess the risk[s] of introduction and establishment of EHN associated with the importation from the *exporting country* of dead uneviscerated fish of the [susceptible] species listed in Article[s] 2.1.1.2 [and 2.1.1.3], including consideration of applying risk management measures, prior to a decision on whether to authorise an importation. This assessment should be made available to the *exporting country*.

Article 2.1.1.[22]14.

The *Competent Authorities* of *exporting countries* should not authorise the exportation of live *fish* or dead uneviscerated fish from areas where there are populations known to be infected with EHN without the [full] prior agreement of the *importing country*.